

Translation

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PATENT COOPERATION TREATY

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INTERNATIONAL PRELIMINARY REPORT ON PATENTABILITY  
(Chapter II of the Patent Cooperation Treaty)

(PCT Article 36 and Rule 70)

Applicant's or agent's file reference 15P409	FOR FURTHER ACTION	See Form PCT/IPEA/416
International application No. PCT/JP2003/011995	International filing date (day/month/year) 19 September 2003 (19.09.2003)	Priority date (day/month/year) 15 October 2002 (15.10.2002)
International Patent Classification (IPC) or national classification and IPC F16J 15/32		
Applicant NOK CORPORATION		

1. This report is the international preliminary examination report, established by this International Preliminary Examining Authority under Article 35 and transmitted to the applicant according to Article 36.
2. This REPORT consists of a total of <u>4</u> sheets, including this cover sheet.
3. This report is also accompanied by ANNEXES, comprising: a. <input checked="" type="checkbox"/> (sent to the applicant and to the International Bureau) a total of <u>1</u> sheets, as follows: <div style="margin-left: 40px;"><input checked="" type="checkbox"/> sheets of the description, claims and/or drawings which have been amended and are the basis of this report and/or sheets containing rectifications authorized by this Authority (see Rule 70.16 and Section 607 of the Administrative Instructions). <input type="checkbox"/> sheets which supersede earlier sheets, but which this Authority considers contain an amendment that goes beyond the disclosure in the international application as filed, as indicated in item 4 of Box No. I and the Supplemental Box.</div> b. <input type="checkbox"/> (sent to the International Bureau only) a total of (indicate type and number of electronic carrier(s)) _____, containing a sequence listing and/or tables related thereto, in computer readable form only, as indicated in the Supplemental Box Relating to Sequence Listing (see Section 802 of the Administrative Instructions).
4. This report contains indications relating to the following items: <div style="margin-left: 20px;"><input checked="" type="checkbox"/> Box No. I Basis of the report <input type="checkbox"/> Box No. II Priority <input type="checkbox"/> Box No. III Non-establishment of opinion with regard to novelty, inventive step and industrial applicability <input type="checkbox"/> Box No. IV Lack of unity of invention <input checked="" type="checkbox"/> Box No. V Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement <input type="checkbox"/> Box No. VI Certain documents cited <input type="checkbox"/> Box No. VII Certain defects in the international application <input type="checkbox"/> Box No. VIII Certain observations on the international application</div>

Date of submission of the demand 06 April 2004 (06.04.2004)	Date of completion of this report 15 December 2004 (15.12.2004)
Name and mailing address of the IPEA/JP	Authorized officer
Facsimile No.	Telephone No.

## INTERNATIONAL PRELIMINARY REPORT ON PATENTABILITY

International application No.

PCT/JP03/011995

## Box No. I Basis of the report

1. With regard to the language, this report is based on the international application in the language in which it was filed, unless otherwise indicated under this item.

- ☐ This report is based on translations from the original language into the following language \_\_\_\_\_, which is language of a translation furnished for the purpose of:
- ☐ international search (under Rules 12.3 and 23.1(b))
- ☐ publication of the international application (under Rule 12.4)
- ☐ international preliminary examination (under Rules 55.2 and/or 55.3)

2. With regard to the elements of the international application, this report is based on *(replacement sheets which have been furnished to the receiving Office in response to an invitation under Article 14 are referred to in this report as "originally filed" and are not annexed to this report)*:

- ☐ The international application as originally filed/furnished
- ☒ the description:
- pages \_\_\_\_\_ 1-8 \_\_\_\_\_, as originally filed/furnished
- pages\* \_\_\_\_\_ received by this Authority on \_\_\_\_\_
- pages\* \_\_\_\_\_ received by this Authority on \_\_\_\_\_
- ☒ the claims:
- pages \_\_\_\_\_, as originally filed/furnished
- pages\* \_\_\_\_\_, as amended (together with any statement) under Article 19
- pages\* \_\_\_\_\_ 1 \_\_\_\_\_ received by this Authority on \_\_\_\_\_ 13 September 2004 (13.09.2004)
- pages\* \_\_\_\_\_ received by this Authority on \_\_\_\_\_
- ☒ the drawings:
- pages \_\_\_\_\_ 1, 2 \_\_\_\_\_, as originally filed/furnished
- pages\* \_\_\_\_\_ received by this Authority on \_\_\_\_\_
- pages\* \_\_\_\_\_ received by this Authority on \_\_\_\_\_
- ☐ a sequence listing and/or any related table(s) – see Supplemental Box Relating to Sequence Listing.

3. ☐ The amendments have resulted in the cancellation of:

- ☐ the description, pages \_\_\_\_\_
- ☐ the claims, Nos. \_\_\_\_\_
- ☐ the drawings, sheets/figs \_\_\_\_\_
- ☐ the sequence listing (*specify*): \_\_\_\_\_
- ☐ any table(s) related to sequence listing (*specify*): \_\_\_\_\_

4. ☐ This report has been established as if (some of) the amendments annexed to this report and listed below had not been made, since they have been considered to go beyond the disclosure as filed, as indicated in the Supplemental Box (Rule 70.2(c)).

- ☐ the description, pages \_\_\_\_\_
- ☐ the claims, Nos. \_\_\_\_\_
- ☐ the drawings, sheets/figs \_\_\_\_\_
- ☐ the sequence listing (*specify*): \_\_\_\_\_
- ☐ any table(s) related to sequence listing (*specify*): \_\_\_\_\_

\* If item 4 applies, some or all of those sheets may be marked "superseded."

## INTERNATIONAL PRELIMINARY EXAMINATION REPORT

International application No.

PCT/JP 01/1995

**V. Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement****1. Statement**

Novelty (N)	Claims	1	YES
	Claims		NO
Inventive step (IS)	Claims		YES
	Claims	1	NO
Industrial applicability (IA)	Claims	1	YES
	Claims		NO

**2. Citations and explanations**

Document 1: JP 2001-355740 A (NOK Corp.), 26 December 2001, paragraphs [0017]-[0023], fig. 2, fig. 3

Document 2: Microfilm of the specification and drawings annexed to the written application of Japanese Utility Model Application No. 61197/1987 (Laid-open No. 168365/1988) (NOK Corp.), 2 November 1988, page 1, line 6 to page 2, line 4; page 5, line 9 to page 6, line 12; fig. 3

Document 3: JP 2-35272 A (Sakagami Seisakusho Ltd.), 5 February 1990, claims; page 3, upper right column, line 15 to lower left column, line 9; page 5, upper left column, lines 1 to 13; page 5, lower left column, lines 2 to 4; fig. 3; fig. 7

The invention described in claim 1 does not involve an inventive step in the light of document 1 (paragraphs [0017] to [0023], fig. 2, fig. 3) cited in the international search report and document 2 (page 1, line 6 to page 2, line 4; page 5, line 9 to page 6, line 12, fig. 3) cited in the international search report, or document 3 (claims; page 3, upper right column, line 15 to lower left

column, line 9; page 5, upper left column, lines 1 to 13; page 5, lower left column, lines 2 to 4; fig. 3; fig. 7) cited in the international search report.

Document 3 (page 5, lines 1 to 3) indicates that the provision of projections on a backup ring can also be considered the same as forming groove parts (recessed parts) in the surface that comes into contact with a rod, and no particular difficulty is recognized in changing the narrow grooves (8) in the axial direction provided on the seal part (2) disclosed in document 2 to a projection in the axial direction.

Further, document 2 does not specifically disclose a reciprocating seal, but the invention disclosed in document 2 is a sealing means arranged between a shaft and housing that move relative to one another, and thus, no particular difficulty is recognized in applying the features disclosed in document 2 to a reciprocating seal.

Moreover, document 3 pertains to a rod seal device or a piston seal device (see page 5, lower left column, lines 2 to 4), and thus, no particular difficulty is recognized in applying the features disclosed in document 3 to a reciprocating seal.

Therefore, a person skilled in the art could easily conceive of configuring the invention described in claim 1 by applying the shape of the supporting projection (3) of the seal part (2) disclosed in document 2 or the projections (15) in the axial direction provided on the contact surface of the backup ring (11) disclosed in document 3 to the second-stage lip (8) disclosed in document 1.